

20. (Amended) The vector of claim 6, wherein the DNA is operably linked to an expression control sequence suitable to direct mRNA synthesis.

B4
Cont
[22]21. (Amended) The vector of claim 6, wherein the vector is a plasmid, a viral particle, or a phage.

[23]22. (Amended) The vector of claim 6, wherein the vector is an expression vector.

Please add the following new claim:

B5
add
--23. (New) The polynucleotide of claim 2, operably linked to an expression control sequence.

REMARKS

These remarks are in response to the Office Action mailed August 31, 2000. The specification has been amended to remove reference to deposit information. The deposit information is not required for practice or enablement of the claimed invention. As a preliminary matter, the claims have been renumbered to reflect the proper number of claims in the present application. Claim 22 has been renumbered as claim 21 and claim 23 has been renumbered as claim 22. Accordingly, claims 1-9 and 13-22 are pending. By the present communication, claims 15 and 16 have been canceled without prejudice to Applicants' right to prosecute the canceled subject matter in any divisional, continuation, continuation-in-part, or other application. The present communication amends claims 1-5, 13, 14, and 17-22. Amendments to claims 1 and 5 are supported throughout the specification and claims as originally filed (e.g., page 9, lines 24-27). Amendments to the remaining claims correct grammatical or typographical mistakes. New claim 23 has been added. Support for claim 23 can be found at page 13, lines 8-9. No new matter has been introduced. Applicants respectfully request reconsideration and allowance of the pending claims.



I. REJECTIONS UNDER 35 U.S.C. §112, FIRST PARAGRAPH

Claims 5, 15, and 16 stand rejected under 35 U.S.C. §112, first paragraph as allegedly containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicants respectfully traverse this rejection.

Claims 15 and 16 have been canceled thus the rejection is moot with respect to these claims. Claim 5 has been amended. Applicants believe that due to the cancellation of claims 15 and 16, and the amendment to claim 5 that the present rejection is moot. Accordingly, Applicants respectfully request withdrawal of the §112, first paragraph rejection.

Claims 1, 13-16, 14 and 19 stand rejected under 35 U.S.C. §112, first paragraph, because the specification while being enabling for a polynucleotide which encodes SEQ ID NO:4 or is 90% identical to a polynucleotide which encodes SEQ ID NO:4 allegedly does not reasonably provide enablement for a polynucleotide which is at least 70% identical to a polynucleotide encoding an enzyme comprising SEQ ID NO:4. Claims 15 and 16 have been canceled, thus the rejection is moot with respect to these claims. Applicants respectfully traverse this rejection.

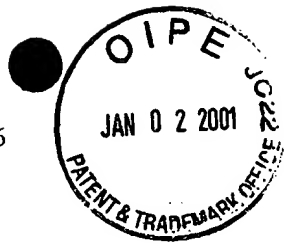
The Office Action asserts that the claim language "encompass any enzyme which is at least 70% identical to said polynucleotides." (Office Action at page 4, lines 8-10). Applicants respectfully submit that the claim language encompasses polynucleotide sequences encoding an enzyme having a sequence that is at least 70% or at least 90% identical to SEQ ID NO:4 and *having alpha galactosidase activity*. Thus, Applicants submit that the present claims do not encompass any enzyme but encompass enzymes having both a particular structure and function, *i.e.*, alpha galactosidase activity.

It is respectfully submitted that one of skill in the art could easily determine whether a claimed polynucleotide encodes an amino acid sequence that is at least 70% or 90% identical to SEQ ID NO:4. For example, the specification at page 11 states that the similarity or identity can be determined by comparing the amino acid sequence of two amino acid sequences. In addition,

methods for assaying for galactosidase activity are routine in the art and are supported by the present specification at pages 18-20, "Example 2". Applicants submit that one of skill in the art could design a polynucleotide sequence encoding a polypeptide having 70% identity or 90% identity to SEQ ID NO:4, determine the identity by comparing the amino acid sequence of SEQ ID NO:4 with the polypeptide encoded by the designed polynucleotide (which process can be automated), and determine enzymatic activity using the assays described in the present specification or assays known in the art. Such methodology is routine in the art and is enabled by the present specification. Thus, the claims are fully supported and enabled by the present specification and do not require undue experimentation. Accordingly, Applicants respectfully request withdrawal of the §112, first paragraph rejection.

Claim 17 stands rejected under 35 U.S.C. §112, first paragraph as allegedly containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The Office Action alleges that the term "genomic DNA" encompasses structure elements which are not supported by the present specification, "[t]herefore the complete structure of the gene is inadequately described." (Office Action at page 5, line 5-6). Applicants respectfully traverse this rejection.

Claim 17 has been amended and new claim 23 has been added. One of skill in the art could easily obtain genomic DNA encoding an enzyme of the present invention based on both the structural (*i.e.*, sequence) and functional (*i.e.*, alpha galactosidase activity of the encoded enzyme) properties described and enabled by the present application. Applicants respectfully submit that the genomic sequences of bacteria (such as a bacteria from which a sequence of the invention can be obtained) do not have exon/intron regions and thus the claimed invention properly describes the complete structure of a genomic DNA of the invention. Accordingly, Applicants respectfully request withdrawal of the §112, first paragraph rejection.



II. REJECTIONS UNDER 35 U.S.C. §112, SECOND PARAGRAPH

Claim 5 stands rejected under 35 U.S.C. §112, second paragraph as allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants respectfully traverse this rejection.

Applicants submit that amended claim 5 no longer requires a deposit number. Accordingly, this rejection may be properly withdrawn.

Claim 19 stands rejected under 35 U.S.C. §112, second paragraph as allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Office Action alleges that the term "non-coding sequence" renders the claim unclear as to the metes and bounds of the invention. Applicants respectfully traverse this rejection.

Applicants submit that amended claim 19 does not recite "non-coding sequence." Accordingly, this rejection may be properly withdrawn.

III. DOUBLE PATENTING REJECTION

Claims 1-9 and 13-22 stand rejected under the judicially created doctrine of obviousness-type double patenting as allegedly unpatentable over claims 3-14 of U.S. Patent No. 5,958,751. Applicants respectfully traverse this rejection but request that the rejection be held in abeyance until such time as the Examiner indicates that the present claims are allowable.

IV. REJECTIONS UNDER 35 U.S.C. §102(e)

Claims 1-3, 5-9 and 17-23 stand rejected under 35 U.S.C. §102(e) as allegedly anticipated by Sogabe *et al.* Applicants respectfully traverse this rejection.

Claims 1 and 5, upon which the remaining claims depend, recite a polynucleotide which is at least 30 bases in length. Sogabe *et al.* does not provide a polynucleotide which is at least 30 bases in length and which encodes an amino acid sequence as set forth in SEQ ID NO:4 having alpha galactosidase activity. Thus, Sogabe *et al.* cannot anticipate the present claims. Accordingly, Applicants respectfully request withdrawal of the §102(e) rejection.

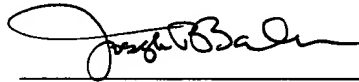
In re Application of:
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In view of the above remarks, reconsideration and favorable action on all claims is respectfully requested. Should any questions remain in view of this communication, the Examiner is encouraged to call Applicants' representative Lisa A. Haile, Ph.D. at 858-677-1456, so that a prompt disposition of this application can be achieved.

Respectfully submitted,

Date: 12/29/00



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